

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-184-13
Relating to Exemptions Under Section 27156
of the Vehicle Code

MAREMONT EXHAUST PRODUCTS, INC.
"THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER SERIES 38500/38600"

WHEREAS, Vehicle Code Sections 27156 and 38391, and Title 13, California Code of Regulations (hereafter "CCR") Section 2222(h), authorize the California Air Resources Board (ARB) and its Executive Officer to exempt new aftermarket catalytic converters from the prohibitions of Vehicle Code Section 27156.

WHEREAS, Maremont Exhaust Products, Inc., a division of ArvinMeritor, of 2400 Maremont Parkway, Loudon, Tennessee 37774, has applied to the ARB for exemption from the prohibitions in Vehicle Code Sections 27156 and 38391 to market their aftermarket series 38500/38600 three-way plus oxidation catalytic converter (TWC + OC) for the following applications, except for vehicles equipped with an on-board diagnostic II (OBD-II) system (Title 13, CCR, Section 1968.1):

<u>Type</u>	<u>Use</u>	<u>Series No.</u>	<u>Max. Eng. Size</u>	<u>Max. Test Veh. Wt.</u>
TWC + OC	TWC + OC	38500/38600	5.9L (360 CID)	6,000 lbs.
TWC + OC	TWC	38500/38600	5.9L (360 CID)	6,000 lbs.
TWC + OC	OC	38500/38600	5.9L (360 CID)	6,000 lbs.

The catalytic converter may be also marketed for direct fit application using the following series numbers: 28700, 28800, 28900, 29100, 29200, and 29500.

WHEREAS, pursuant to the authority vested in the Executive Officer by Health and Safety Code Section 39515 and in the Chief, Mobile Source Operations Division by Health and Safety Code Section 39516 and Executive Order G-45-9, the ARB finds that the above aftermarket catalytic converter complies with the California Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h). Emission performance of the catalytic converter was based on bench-aging of the catalyst by Johnson Matthey using its EDC-53 rapid aging cycle in lieu of the AMA mileage accumulation (Reference Appendix IV, Title 40, part 86, Code of Federal Regulations (June 28, 1977)).

WHEREAS, emissions tests conducted at Automotive Development and Testing Services, Ontario, California, showed the following conversion efficiencies which meet the minimum requirements for new aftermarket catalytic converters:

Catalyst Application Type

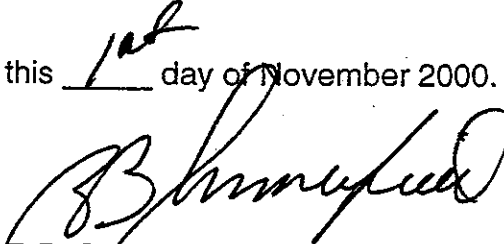
<u>Pollution Component</u>	<u>TWC + OC</u>	<u>TWC</u>	<u>OC</u>
HC: Min. Requirement	70 (% Conversion)	70	70
Maremont's series 38500/38600	77.3	79.8	97.9
CO: Min. Requirement	70	70	70
Maremont's series 38500/38600	72.8	82.8	76.6
NOx: Min. Requirement	50	60	-
Maremont's series 38500/38600	67.6	72.4	-

IT IS HEREBY RESOLVED that the above catalytic converter is exempt from the prohibitions in Vehicle Code Section 27156 for installation on applicable vehicles subject to the following conditions:

1. No changes are permitted to the catalytic converter as described in the application for exemption. Any changes to the catalytic converter or any of its components, and other factors addressed in this order must be evaluated and approved by the ARB prior to marketing in California.
2. Marketing of the catalytic converter using identifications other than those shown in the exemption application, and in this Executive Order, or marketing of the catalytic converter for application other than the ones shown in this Executive Order shall be prohibited unless prior approval is obtained from the ARB. Exemption of this product shall not be construed as an exemption to sell, offer for sale, or advertise any components of the catalytic converter as individual devices.
3. Any oral or written references to this Executive Order or its content by Maremont, its principals, agents, employees, distributors, dealers, or other representatives must include the disclaimer that the Executive Order or the exemption it provides is not an endorsement or approval of any emission reduction claims for the catalytic converter and is only a finding that the catalytic converter is exempt from the prohibitions of Vehicle Code Section 27156.
4. Maremont's installation instructions for the new catalytic converter must conform to requirements in Paragraphs I and IX of California Evaluation Procedures for New Aftermarket Non-Original Equipment Catalytic Converters.
5. Upon installation, the catalytic converter must carry a manufacturer's warranty for 25,000 miles on the substrates and 50,000 miles or five years on the shell and end pipes.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after ten day written notice of intention to revoke it, during which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request, and the order may not be revoked until a determination is made, after the hearing, that grounds for revocation exist.

Executed at El Monte, California, this 1st day of November 2000.



R.B. Summerfield, Chief
Mobile Source Operations Division

State of California
AIR RESOURCES BOARD

EVALUATION OF MAREMONT EXHAUST PRODUCTS, INC.'S NEW AFTERMARKET
THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION
FROM THE PROHIBITIONS IN VEHICLE CODE SECTION 27156, AND
TITLE 13, CALIFORNIA CODE OF REGULATIONS SECTION 2222(h)

November 2000

by

Mobile Source Division

9528 Telstar Avenue
El Monte, CA 91731-2990

(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

Maremont Exhaust Products, Inc. (Maremont), a division of ArvinMeritor, of 2400 Maremont Pkwy, Loudon, Tennessee 37774, has applied for an exemption of their series 38500/38600 new aftermarket three-way plus oxidation catalytic converter (TWC + OC) from the prohibitions in Vehicle Code Sections 27156, in accordance with California regulations on new aftermarket catalytic converters. The new catalytic converter is intended for installation on TWC + OC, TWC, and OC vehicles powered by an engine having a maximum displacement of 5.9L, and a maximum equivalent test weight of 6,000 lbs., and a gross vehicle weight (GVW) of 7,780 lbs. The two test catalysts were aged using Johnson Matthey bench-aging cycle EDC-53, which was accepted by the Air Resources Board (ARB) as equivalent to 25,000 miles on-road mileage accumulation on the AMA driving cycle. The catalyst substrates are oval in shape and of ceramic monolith type. Both front and rear substrates contain platinum and rhodium in a 4:1 ratio. The emission tests were conducted on a 1989 Dodge Van 5.9L for the TWC + OC application, a 1994 Dodge Van 5.9L for TWC application, and a 1988 Dodge Van 5.9L for OC application.

Emissions data submitted by the applicant show that the catalytic converter meets the requirements of Vehicle Code Section 27156 and Title 13, California Code of Regulations, Section 2222(h) for the stated application. Based on the above, the staff recommends that the exemption be granted as requested and that Executive Order D-184-13 be issued.

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EVALUATION OF MAREMONT EXHAUST PRODUCTS, INC.'S NEW AFTERMARKET
THREE-WAY PLUS OXIDATION CATALYTIC CONVERTER FOR EXEMPTION
FROM THE PROHIBITIONS IN VEHICLE CODE SECTION 27156, AND
TITLE 13, CALIFORNIA CODE OF REGULATIONS SECTION 2222(h)

I. INTRODUCTION

Maremont Exhaust Products, Inc. (Maremont), a division of ArvinMeritor, of 2400 Maremont Pkwy, Loudon, Tennessee 37774, has applied for an exemption from the prohibitions in Vehicle Code Section 27156 for their new series 38500/38600 aftermarket three-way plus oxidation catalytic converter (TWC + OC) in accordance with California regulations on new aftermarket catalytic converters. The new aftermarket catalytic converter is intended for the following vehicle applications:

<u>Converter Type</u>	<u>Converter Use</u>	<u>PN/Series</u>	<u>Max. Eng.Size</u>	<u>Max.Veh.Test Wt.</u>
TWC + OC	TWC + OC	38500/38600	5.9L	6,000 lbs.
TWC + OC	TWC	38500/38600	5.9L	6,000 lbs.
TWC + OC	OC	38500/38600	5.9L	6,000 lbs.

The catalytic converter may be also marketed for direct fit using the following series numbers: 28700, 28800, 28900, 29100, 29200, and 29500. The maximum GVW for the catalyst application is 7,780 lbs. Maremont intends to market the new aftermarket catalytic converter as a replacement for catalytic converters on applicable vehicles whose manufacturers' warranty has expired and the need for replacement of the original equipment manufacturer (OEM) catalytic converter has been established and documented. The application does not include vehicles equipped with an On-Board Diagnostic II (OBD-II) system.

II. CONCLUSION

The applicant has submitted all the required information, and based on the applicant's submitted exhaust emissions test data, the staff concludes that the new aftermarket catalyst meets the criteria set forth in Vehicle Code Section 27156, and Title 13, California Code of Regulations, Section 2222(h) for the stated application.

III. RECOMMENDATION

Staff recommends that the exemption be granted as requested and that Executive Order No. D-184-13 be issued, permitting the advertisement, sale, and installation of the new aftermarket catalytic converter on applicable vehicles.

IV. DEVICE DESCRIPTION

Maremont's new aftermarket TWC + OC is designed to use two oval ceramic monolith substrates. Both front and rear substrates are coated with platinum and rhodium in a 4:1 ratio. The dimensions of the front and rear substrates are 4.75 inches for the major axis, 3.15 inches for the minor axis, and 2.0 inches in length. The combined volume of the front and rear substrates is 54.3 cubic inches. The substrates are contained in an outer 409 stainless steel shell with intumescent mat, to prevent vibration and exhaust by-pass. The shell is sealed by seam weld. The aluminized heat shield is spot-welded to the upper side of the converter to protect the vehicle's underbody from excessive heat. The catalyst may be sold as a unit with installation instructions or it may be used in customized direct fit exhaust applications. It is sold with a warranty for 25,000 miles on the substrates, and five years or 50,000 miles on the container or shell, and the end pipes.

V. DEVICE EVALUATION

Maremont submitted data from testing conducted by Automotive Testing and Development Services, Inc. (ATDS), located in Ontario, California. Bench-aging was conducted by Johnson Matthey using its EDC-53 cycle which was accepted by the ARB as equivalent to AMA driving cycle for 25,000 miles. Emissions tests were conducted on a 1989 Dodge Van 5.9L for the TWC + OC application, a 1994 Dodge Van 5.9L for the TWC application, and a 1988 Dodge Van 5.9L for the OC application.

The evaluation of the Maremont new aftermarket catalytic converter is solely based on the bench-aging of the converter by Johnson Matthey and emission tests conducted at ATDS. The limits of application of Maremont's series 38500/38600 TWC + OC are 5.9L/6,000 lbs., with the corresponding maximum gross vehicle weight of 7,780 lbs. The test catalysts were labeled 029-01 and 029-01A respectively. Testing consisted of two cold-start CVS-75 tests with a simulator ("dummy" catalyst), followed by two cold-start CVS-75 tests for each of the test catalysts. The average of the two test results for each test catalyst was used to calculate the conversion efficiency. The overall conversion efficiency for the catalyst model is the average conversion efficiency of the two test catalysts. The test results for the catalyst are shown below:

Automotive Testing and Development Services, Inc., Ontario, California

<u>TWC + OC</u>				
	<u>Simulator Average</u>	<u>Catalyst 029-01 Average</u>	<u>Catalyst 029-01A Average</u>	<u>Conv. Eff. Average</u>
HC (g/mi)	2.809	0.676	0.599	77.3%
CO (g/mi)	27.918	7.241	7.915	72.8%
NOx (g/mi)	2.707	0.941	0.813	67.6%
<u>TWC</u>				
HC (g/mi)	2.136	0.454	0.410	79.8%
CO (g/mi)	21.757	3.982	3.504	82.8%
NOx (g/mi)	3.984	1.141	1.057	72.4%
<u>OC</u>				
HC (g/mi)	2.562	0.507	0.524	79.9%
CO (g/mi)	26.950	6.243	6.365	76.6%

The above test results meet the minimum requirements of the California regulations on new aftermarket catalytic converters. The ARB did not conduct confirmatory testing on the catalyst.